



A.D. 1857 N° 2165.

S P E C I F I C A T I O N

OF

PAUL EMILE LAVIRON.

APPARATUS FOR CURING SMOKY
CHIMNEYS, &c.

LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
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1858.



A.D. 1857 N° 2165.

Apparatus for Curing Smoky Chimneys, &c.

LETTERS PATENT to Paul Emile Laviron, of Paris (France), Gentleman,
for the Invention of “**IMPROVEMENTS IN APPARATUS FOR CURING SMOKY
CHIMNEYS AND FOR INCREASING THE DRAFT IN THEM.**”

Sealed the 15th January 1858, and dated the 14th August 1857.

PROVISIONAL SPECIFICATION left by the said Paul Emile Laviron at
the Office of the Commissioners of Patents, with his Petition, on the
14th August 1857.

I, **PAUL EMILE LAVIRON**, of Paris (France), Gentleman, do hereby declare
5 the nature of the said Invention for “**IMPROVEMENTS IN APPARATUS FOR CURING
SMOKY CHIMNEYS AND FOR INCREASING THE DRAFT IN THEM,**” to be as follows:—

The Invention has for its object certain apparatus to be applied either to
the top of chimneys or in the inside thereof, and consisting of a fan or
aspirator for causing a more ready egress of the smoke at the top of the
10 chimney. The apparatus is formed of an inverted cone furnished with proper
vanes, and revolving within other curved vanes fixed to the periphery of a
circular disc fitted in a concentric manner on the inverted cone, and having
an opening near the centre, through which the smoke of the chimney is
aspired and driven out in a centrifugal manner. The entire apparatus is
15 fixed to a central vertical spindle revolving by the wind acting at the outside
of the chimney on proper paddles or brackets, and thus imparting motion to
the spindle. In order to replace, if required, the action of the wind for

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imparting motion to the apparatus, this latter may be driven also by any other suitable prime mover so as, for instance, by a clockwork and proper gearing. This apparatus may be in such case be placed in a proper recess close to the chimney, and communicate therewith in such manner as to allow of putting the apparatus in operation whenever circumstances will require.

5

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Paul Emile Laviron in the Great Seal Patent Office on the 13th February 1858.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, PAUL EMILE LAVIRON, of Paris, France, Gentleman, send greeting.

10

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Fourteenth day of August, in the year of our Lord One thousand eight hundred and fifty-seven, in the twenty-first year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Paul Emile Laviron, Her special licence that I, the said Paul Emile Laviron, my executors, administrators, and assigns, or such others as I, the said Paul Emile Laviron, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN APPARATUS FOR CURING SMOKY CHIMNEYS, AND FOR INCREASING THE DRAFT IN THEM,**" upon the condition (amongst others) that I, the said Paul Emile Laviron, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

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NOW KNOW YE, that I, the said Paul Emile Laviron, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

30

The Invention has for its object certain apparatuses for curing smoky chimneys and for increasing the draft therein; the Invention being also applicable for driving off through a chimney noxious gases or dangerous

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effluvia. The apparatuses I make use of for these purposes consist chiefly of a fan or blower worked either by means of the wind on the outside of the chimney or by a counterweight, spring, or any other suitable moving power, the said fan acting in a centrifugal manner, so as to carry off or exhaust from
5 the interior of the chimney the smoke, gases, noxious or dangerous effluvia, and projecting them towards the outside of the top of the chimney, thus creating or increasing considerably the draft in this latter.

§ 1.

In the annexed Drawing the Figs. 1, 2, 3, and 4, show various detached
10 parts of an apparatus to be fixed on the outside of the top of the chimney in which the draft is to be increased sufficiently to drive off the smoke or gases created therein by the fuel burnt in the hearth underneath, or for carrying off any deleterious or obnoxious effluvia. Fig. 8 shows an elevation view of the entire apparatus, of which Fig. 9 gives a perspective elevation view with
15 part of the blades *f* of the casing *f, d, h*, removed. In these various Figures corresponding parts are indicated by the same letters of reference. The apparatus which is to be fixed on the top of the chimney cowl *b* is furnished with a central spindle *p*, to the top of which is fixed a circular disc *t* (shown in top view in Fig. 4), provided round its periphery with equidistant arms *s*
20 projecting in a radial manner, the outer end of which arms are furnished with small cornets or vanes *a*, which latter on being acted upon by the wind will cause the arms with the disc *t* and consequently the spindle *p* to revolve. Underneath the disc *t* is situated a hollow cone *g*, shown in vertical section in Fig. 3, through the centre of which cone passes the spindle *p*, thus allowing
25 this latter to revolve freely; suitable stays *e* connect the periphery of the said cone *g* with a casing *f, d, h*, of which Fig. 1 shows a top view, and consisting of four or more excentric curved plates *f* fixed equidistantly round the periphery of the inverted truncated cone *h*, which latter is solidly fixed to the top of the chimney cowl *b*, so as to allow the smoke to pass from the chimney
30 up through this cowl and escape through the openings left between the plates *f*. In the interior of the casing *f, d, h*, is fixed round the spindle *p* the fan or exhauster *q, v*, of which Fig. 2 represents an elevation view, and consisting of an inverted cone *q*, to the surface of which are fixed at regular distances radial vanes or blades *v*; it will be evident that on causing this fan
35 to revolve with suitable velocity the smoke or other gases will be aspirated or exhausted by means of the vanes *v* from out the chimney, and expelled through the openings left between the plates *f* of the casing, and thus the required draft be created in the interior of the chimney. The lower end of

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the spindle *p* turns in a socket forming the centre of two cross stays *o* fixed horizontally in the cowl *b*. It is of importance that the vanes *v* be sufficiently large so as to cause them on revolving to come quite close to the inner surface of the casing *f*, *d*, *h*, but without actually touching this latter. As in case of heavy winds the apparatus might create in the interior of the chimney 5 a draft of too great intensity, a trap, valve, or damper is inserted in the interior of the flue so as to permit of more or less closing the opening of the flue, and regulate the draft therein.

§ 2.

Fig. 5 shows a side elevation of an apparatus to be driven by any suitable 10 prime mover other than the wind. Fig. 6 & 7 represent vertical sectional views of the arrangement, whereas the Figs. 10 & 11 represent two perspective views of the arrangement; Fig. 10 showing the same fixed on the outside of the chimney, whereas in Fig. 11 the apparatus is fixed in a recess in the inside of the chimney. In these Figures, 5, 6, 7, 10, & 11, cor- 15 responding parts are indicated by the same letters of reference. In this arrangement the prime mover is situated in *m*, and may consist of a clock-work driven by a spring, falling weight, or any other suitable contrivance. The apparatus which is to work towards the lower opening of the flue *h*, *f*, may be situated in a special recess in the brickwork of the chimney, as shown 20 in Fig. 11, or the same may be situated on the outside of the chimney, and be covered up entirely by a suitable casing *q*, as shown in Fig. 10. In both cases an ingress pipe *x* serves for conducting the smoke from the lower part of the chimney towards the fan-blower *v*, from where an egress pipe *r* carries it in the upper part of the flue, direct communication between the lower part *h* 25 and the upper part *f* of the chimney being prevented by the insertion of a partition plate *u* or any other suitable means. The smoke is thus compelled to follow the direction indicated by the arrows (Fig. 5). The apparatus simply consists of a fan or ventilator *v*, the axis of which turns in suitable bearings, and is connected with the prime mover, imparting a suitable velocity 30 to this fan *v*, the blades of which latter may receive any suitable form or position; the draft is further regulated by a damper *z* situated in the ingress pipe *x*. It will be understood that by placing the apparatus described in § 1 in a horizontal instead of the vertical position, the same may be applied to the lower part of the chimney in the same manner as has been described for the 35 apparatus of § 2. For kitchens or other places where a small force is required for moving a turnspit or other little contrivances this force may be obtained from our above-described apparatus by means of any suitable con-

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necting gear, endless bands or chains, or any other means. The draft created in the chimney by these apparatuses may also serve for ventilating the rooms or other spaces to which the same are applied, and thus carry off the vitiated air that might be existing in these places.

5 Having thus described the nature of my Invention, and the manner of putting the same into effect, I wish it to be understood that I do not intend to restrain myself to any particular dimensions of the apparatuses here above-described, or to any particular shape or configuration of their various parts, as long as the peculiar character of the Invention be retained; but what I claim
10 as my Invention consists of the general arrangement of the above-described apparatuses for curing smoky chimneys and for increasing the draft therein, or for driving off through them gases or effluvia.

In witness whereof, I, the said Paul Emile Laviron, have hereunto set my hand and seal, the Ninth day of February, One thousand eight
15 hundred and fifty-eight.

PAUL EMILE LAVIRON. (L.S.)

Witness,

THÉOPHILE DE VOS.

LONDON :

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1858.

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FIG. 4.

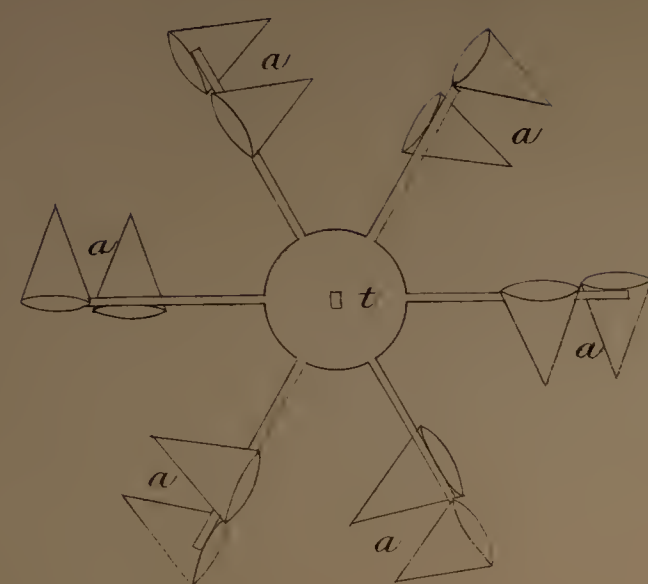


FIG. 6.

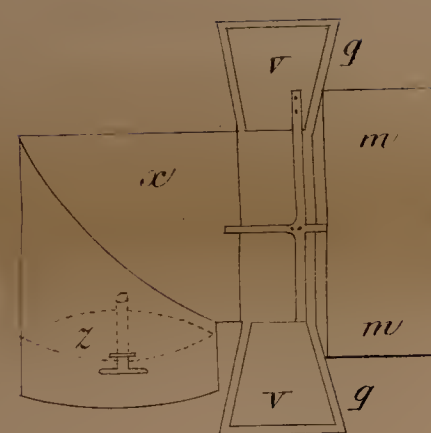


FIG. 1.

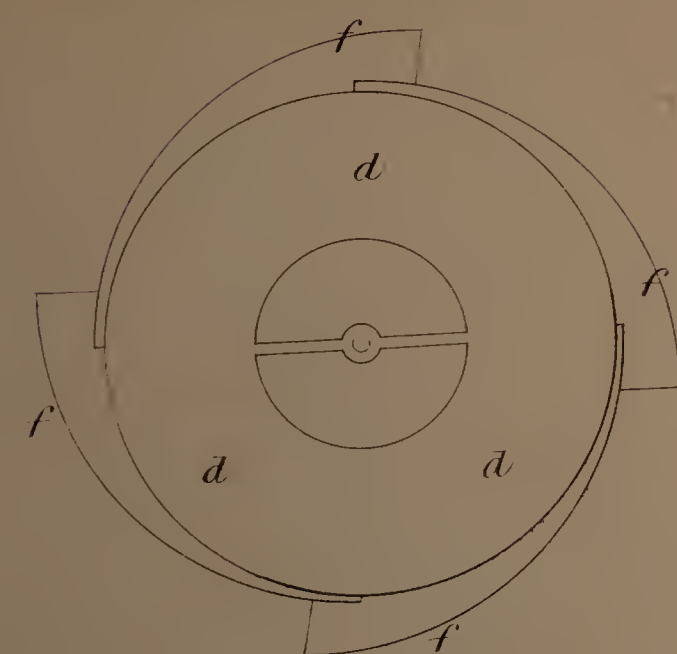


FIG. 8.

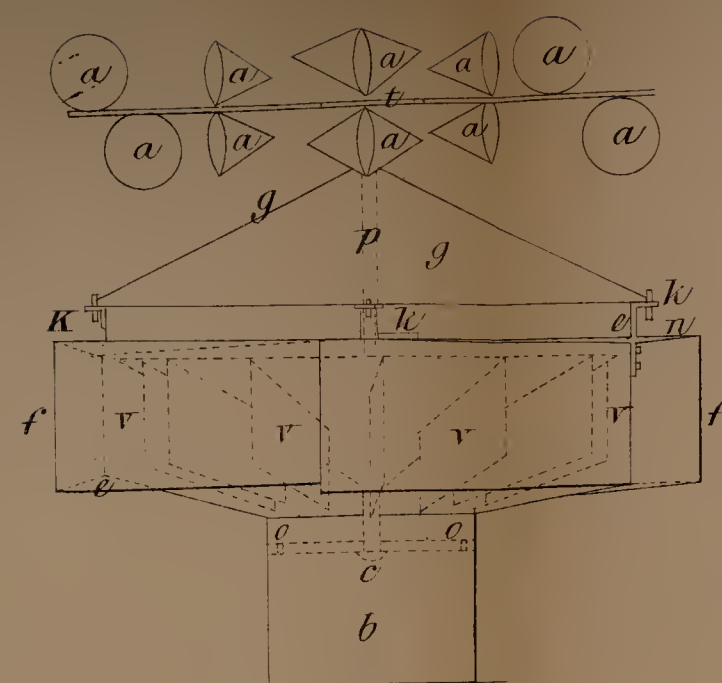


FIG. 9.

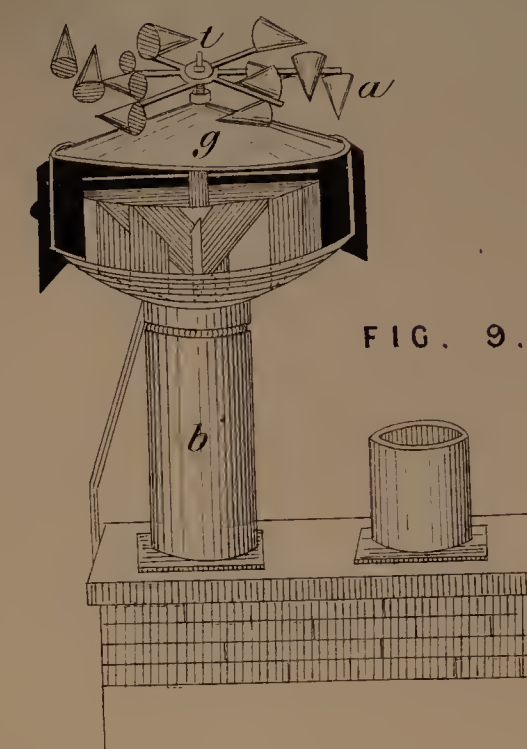


FIG. 5.

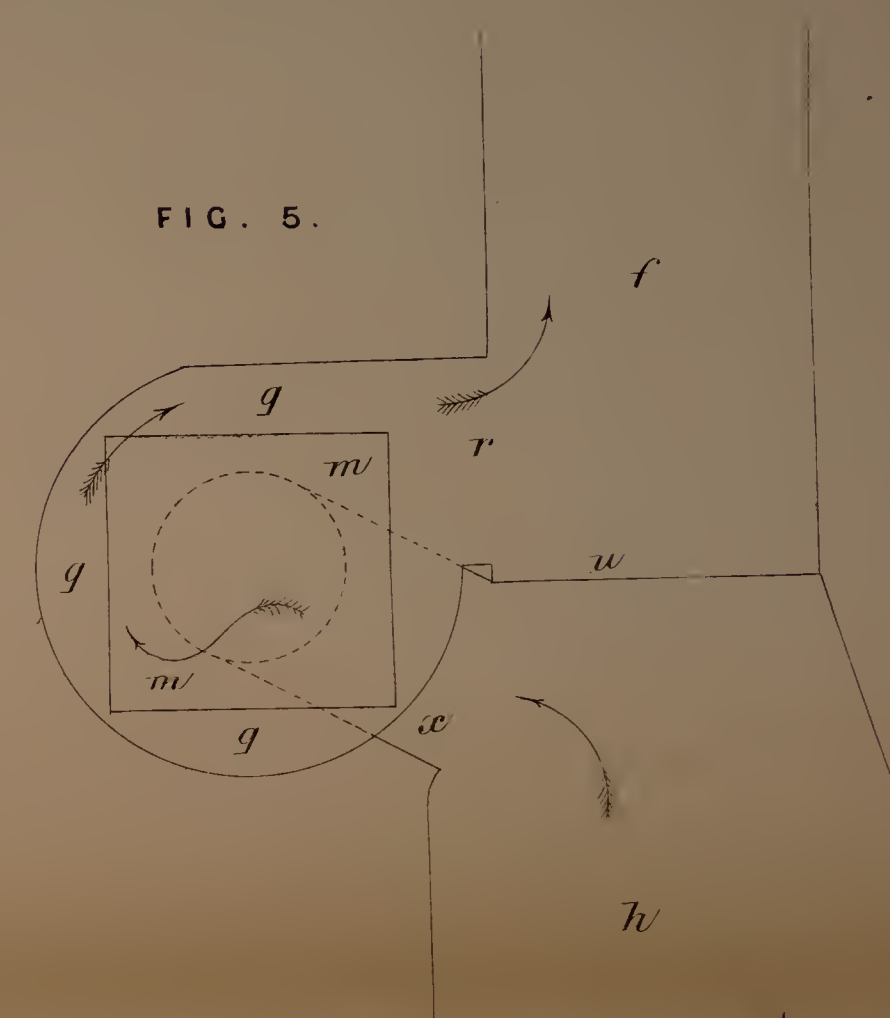


FIG. 7.

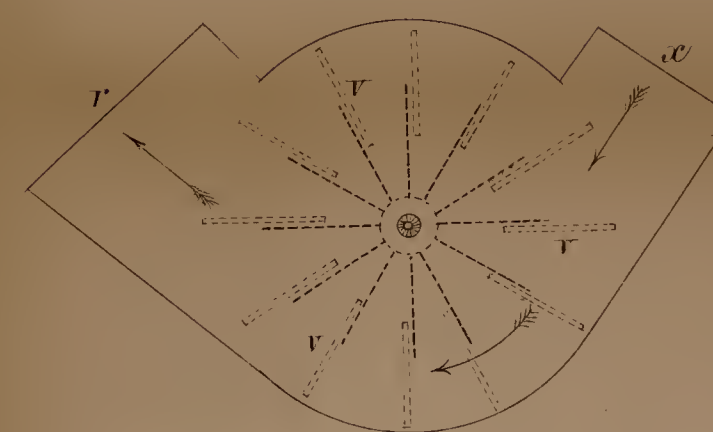


FIG. 10.

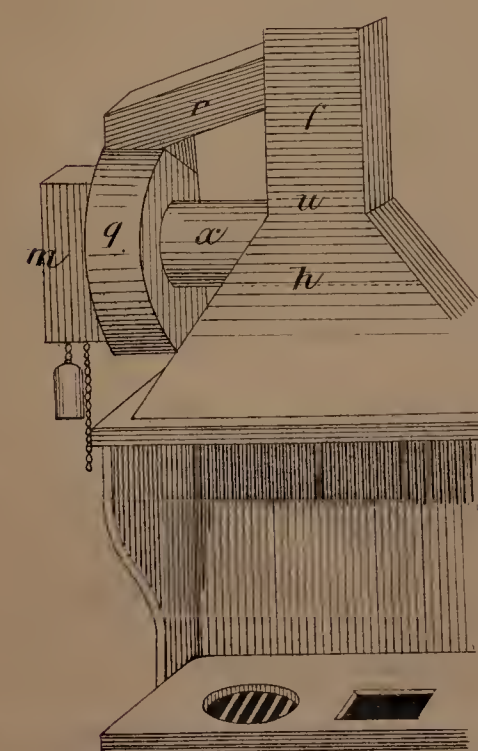


FIG. 3.

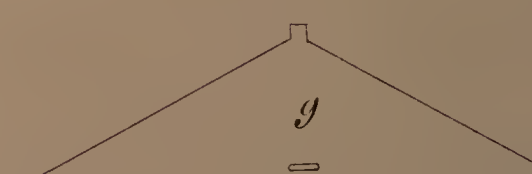
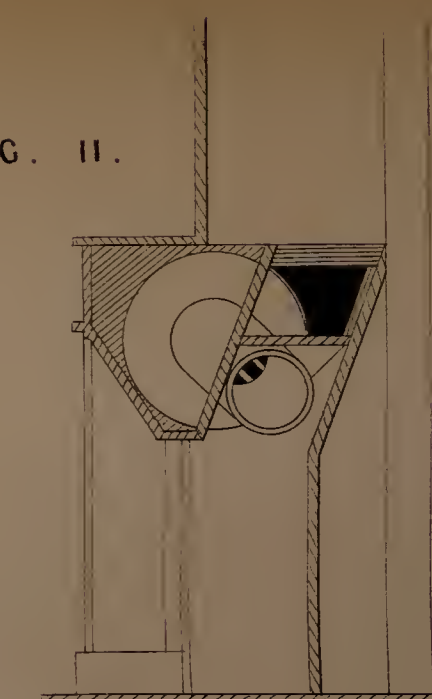


FIG. 11.



The tiled drawing is partly colored.

Drawn on Stone by Malby & Sons.

